

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-38209-1
Client Project/Site: Olin Chemical Surface water quarterly
Sampling Event: Surfacewater Quarterly (2, 5, 8, 11)

For:
Olin Corporation
PO BOX 248
Charleston, Tennessee 37310-0248

Attn: Mr. James Cashwell



CHECKED FOR COMPLETENESS
OF PARAMETERS ORDERED BY:



Authorized for release by:
5/24/2013 4:53:38 PM
Lisa Shaffer, Project Manager I
lisa.shaffer@testamericainc.com

Designee for
Becky Mason, Project Manager II
becky.mason@testamericainc.com

√TL

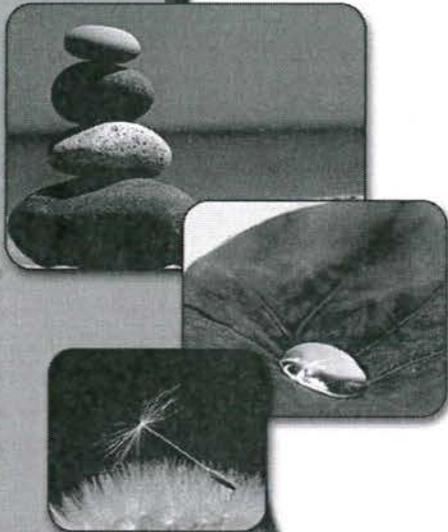
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2Q13 Slurry Wall Cap

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: Olin Corporation
Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	MS or MSD exceeds the control limits
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Olin Corporation
Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Job ID: 480-38209-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-38209-1

Comments

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

TestAmerica's Reporting Limits (RLs) for this report may not always meet client specified method reporting limits due to various reasons such as methodology, dilutions, matrix or moisture content (soils). TestAmerica's pivot table EDD documents which compound(s) exceed certain regulatory standards. If not included with your deliverables, please contact your Project Manager about the availability of this EDD for your report.

Receipt

The samples were received on 5/14/2013 1:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.3° C.

Note: All samples that require thermal preservation are considered acceptable if the arrival temperature is within the method's specified temperature range or for general analysis, ranging from 6°C to just above the freezing temperature of water. Samples that are hand delivered, immediately following collection, may not meet these criteria; however, they will be considered acceptable according to NELAC and State standards, if there is evidence that the chilling process has begun, such as stored and transported to the laboratory on ice.

HPLC

Method(s) 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: OC-DUP SW (480-38209-8), OC-ISCO1 (480-38209-1), OC-ISCO2 (480-38209-2), OC-ISCO3 (480-38209-3), OC-PZ-16RRSW (480-38209-4), OC-PZ-17RRSW (480-38209-5), OC-PZ-18RRSW (480-38209-6), OC-PZ-18RRSW-MSD (480-38209-6 MSD), OC-PZ-18RRSW-XMS (480-38209-6 MS), OC-SD-17 (480-38209-7). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

Metals

Method(s) 6010: The Method Blank for batch 480-118407 contained dissolved sodium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples OC-DUP SW (480-38209-8), OC-ISCO1 (480-38209-1), OC-ISCO2 (480-38209-2), OC-ISCO3 (480-38209-3), OC-PZ-16RRSW (480-38209-4), OC-PZ-17RRSW (480-38209-5), OC-PZ-18RRSW (480-38209-6), OC-SD-17 (480-38209-7) was not performed.

At the request of the client, an abbreviated/modified MCP analyte list was reported for this job.

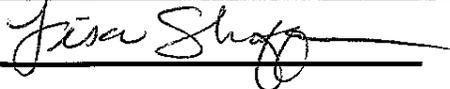
No other analytical or quality issues were noted.

General Chemistry

Method(s) 353.2: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 118615 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

MassDEP Analytical Protocol Certification Form

Laboratory Name:	TestAmerica Buffalo	Project #:	480-38209
Project Location:	Olin Chemical Quarterly SW	RTN:	
This form provides certifications for the following data set: list Laboratory Sample ID Number(s):			
38209 [1-8]			
Matrices:	<input checked="" type="checkbox"/> Groundwater/Surface Water	<input type="checkbox"/> Soil/Sediment	<input type="checkbox"/> Drinking Water <input type="checkbox"/> Air <input type="checkbox"/> Other:
CAM Protocols (check all that apply below):			
8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	Mass DEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	Mass DEP EPH CAM IV B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	Mass DEP APH CAM IX A <input type="checkbox"/>
		9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>
			TO-15 VOC CAM IX B <input type="checkbox"/>
			6860 Perchlorate CAM VIII B <input type="checkbox"/>
Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status			
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding time.		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	a. VPH, EPH and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Responses to Questions G, H and I below are required for "Presumptive Certainty" status			
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
<i>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WCS-07-350</i>			
H	Were all QC performance standards specified in the CAM protocol(s) achieved?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s) ?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹
¹ All negative responses must be addressed in an attached laboratory narrative.			
<i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.</i>			
Signature:		Position:	Project Manager
Printed Name:	Lisa Shaffer	Date:	5/24/13 0:00

Detection Summary

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Client Sample ID: OC-ISCO1

Lab Sample ID: 480-38209-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	11		5.0	1.0	ug/L	1		6010	Total/NA
Aluminum	150	J	200	60	ug/L	1		6010	Total/NA
Sodium	98000		1000	320	ug/L	1		6010	Total/NA
Chromium	6.2		5.0	1.0	ug/L	1		6010	Dissolved
Aluminum	63	J	200	60	ug/L	1		6010	Dissolved
Sodium	97000	B	1000	320	ug/L	1		6010	Dissolved
Chloride	150		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	110		10	1.7	mg/L	5		300.0	Total/NA
Ammonia	28		0.40	0.18	mg/L	20		350.1	Total/NA
Nitrate as N	0.21		0.050	0.020	mg/L	1		353.2	Total/NA
Nitrite as N	0.021	J	0.050	0.020	mg/L	1		353.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	820		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: OC-ISCO2

Lab Sample ID: 480-38209-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	64		5.0	1.0	ug/L	1		6010	Total/NA
Aluminum	380		200	60	ug/L	1		6010	Total/NA
Sodium	120000		1000	320	ug/L	1		6010	Total/NA
Chromium	24		5.0	1.0	ug/L	1		6010	Dissolved
Aluminum	130	J	200	60	ug/L	1		6010	Dissolved
Sodium	110000	B	1000	320	ug/L	1		6010	Dissolved
Chloride	140		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	290		10	1.7	mg/L	5		300.0	Total/NA
Ammonia	37		1.0	0.45	mg/L	50		350.1	Total/NA
Nitrate as N	0.71		0.050	0.020	mg/L	1		353.2	Total/NA
Nitrite as N	0.023	J	0.050	0.020	mg/L	1		353.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	1200		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: OC-ISCO3

Lab Sample ID: 480-38209-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	93	J	200	60	ug/L	1		6010	Total/NA
Sodium	90000		1000	320	ug/L	1		6010	Total/NA
Sodium	88000	B	1000	320	ug/L	1		6010	Dissolved
Chloride	180		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	29		2.0	0.35	mg/L	1		300.0	Total/NA
Ammonia	1.4		0.020	0.0090	mg/L	1		350.1	Total/NA
Nitrate as N	0.85		0.050	0.020	mg/L	1		353.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	750		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: OC-PZ-16RRSW

Lab Sample ID: 480-38209-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	340		5.0	1.0	ug/L	1		6010	Total/NA
Aluminum	1600		200	60	ug/L	1		6010	Total/NA
Sodium	130000		1000	320	ug/L	1		6010	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Detection Summary

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Client Sample ID: OC-PZ-16RRSW (Continued)

Lab Sample ID: 480-38209-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	130		5.0	1.0	ug/L	1		6010	Dissolved
Aluminum	300		200	60	ug/L	1		6010	Dissolved
Sodium	130000	B	1000	320	ug/L	1		6010	Dissolved
Chloride	160		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	310		10	1.7	mg/L	5		300.0	Total/NA
Ammonia	40		1.0	0.45	mg/L	50		350.1	Total/NA
Nitrate as N	0.56		0.050	0.020	mg/L	1		353.2	Total/NA
Nitrite as N	0.023	J	0.050	0.020	mg/L	1		353.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	1200		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: OC-PZ-17RRSW

Lab Sample ID: 480-38209-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	520		5.0	1.0	ug/L	1		6010	Total/NA
Aluminum	2200		200	60	ug/L	1		6010	Total/NA
Sodium	140000		1000	320	ug/L	1		6010	Total/NA
Chromium	290		5.0	1.0	ug/L	1		6010	Dissolved
Aluminum	740		200	60	ug/L	1		6010	Dissolved
Sodium	140000	B	1000	320	ug/L	1		6010	Dissolved
Chloride	170		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	310		10	1.7	mg/L	5		300.0	Total/NA
Ammonia	41		1.0	0.45	mg/L	50		350.1	Total/NA
Nitrate as N	0.33		0.050	0.020	mg/L	1		353.2	Total/NA
Nitrite as N	0.020	J	0.050	0.020	mg/L	1		353.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	1300		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: OC-PZ-18RSW

Lab Sample ID: 480-38209-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	12		5.0	1.0	ug/L	1		6010	Total/NA
Aluminum	160	J	200	60	ug/L	1		6010	Total/NA
Sodium	99000		1000	320	ug/L	1		6010	Total/NA
Chromium	7.1		5.0	1.0	ug/L	1		6010	Dissolved
Aluminum	78	J	200	60	ug/L	1		6010	Dissolved
Sodium	100000	B	1000	320	ug/L	1		6010	Dissolved
Chloride	160		2.5	1.4	mg/L	5		300.0	Total/NA
Sulfate	110		10	1.7	mg/L	5		300.0	Total/NA
Ammonia	28		0.40	0.18	mg/L	20		350.1	Total/NA
Nitrate as N	0.22		0.050	0.020	mg/L	1		353.2	Total/NA
Nitrite as N	0.020	J	0.050	0.020	mg/L	1		353.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	810		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: OC-SD-17

Lab Sample ID: 480-38209-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	500		5.0	1.0	ug/L	1		6010	Total/NA
Aluminum	2100		200	60	ug/L	1		6010	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Detection Summary

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Client Sample ID: OC-SD-17 (Continued)

Lab Sample ID: 480-38209-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Sodium	140000		1000	320	ug/L	1			6010	Total/NA
Chromium	280		5.0	1.0	ug/L	1			6010	Dissolved
Aluminum	700		200	60	ug/L	1			6010	Dissolved
Sodium	140000	B	1000	320	ug/L	1			6010	Dissolved
Chloride	180		2.5	1.4	mg/L	5			300.0	Total/NA
Sulfate	310		10	1.7	mg/L	5			300.0	Total/NA
Ammonia	47		1.0	0.45	mg/L	50			350.1	Total/NA
Nitrate as N	0.44		0.050	0.020	mg/L	1			353.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
Specific Conductance	1300		1.0	1.0	umhos/cm	1			SM 2510B	Total/NA

Client Sample ID: OC-DUP SW

Lab Sample ID: 480-38209-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chromium	12		5.0	1.0	ug/L	1			6010	Total/NA
Aluminum	180	J	200	60	ug/L	1			6010	Total/NA
Sodium	98000		1000	320	ug/L	1			6010	Total/NA
Chromium	6.9		5.0	1.0	ug/L	1			6010	Dissolved
Aluminum	99	J	200	60	ug/L	1			6010	Dissolved
Sodium	100000	B	1000	320	ug/L	1			6010	Dissolved
Chloride	160		2.5	1.4	mg/L	5			300.0	Total/NA
Sulfate	110		10	1.7	mg/L	5			300.0	Total/NA
Ammonia	27		0.40	0.18	mg/L	20			350.1	Total/NA
Nitrate as N	0.22		0.050	0.020	mg/L	1			353.2	Total/NA
Nitrite as N	0.021	J	0.050	0.020	mg/L	1			353.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
Specific Conductance	820		1.0	1.0	umhos/cm	1			SM 2510B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample Results

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Client Sample ID: OC-ISCO1

Lab Sample ID: 480-38209-1

Date Collected: 05/13/13 10:15

Matrix: Surface Water

Date Received: 05/14/13 01:00

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	11		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 21:21	1
Aluminum	150	J	200	60	ug/L		05/14/13 08:30	05/14/13 21:21	1
Sodium	98000		1000	320	ug/L		05/14/13 08:30	05/14/13 21:21	1

Method: 6010 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	6.2		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 20:38	1
Aluminum	63	J	200	60	ug/L		05/14/13 08:30	05/14/13 20:38	1
Sodium	97000	B	1000	320	ug/L		05/14/13 08:30	05/14/13 20:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		2.5	1.4	mg/L			05/15/13 20:24	5
Sulfate	110		10	1.7	mg/L			05/15/13 20:24	5
Ammonia	28		0.40	0.18	mg/L			05/14/13 16:19	20
Nitrate as N	0.21		0.050	0.020	mg/L			05/14/13 19:51	1
Nitrite as N	0.021	J	0.050	0.020	mg/L			05/14/13 22:24	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	820		1.0	1.0	umhos/cm			05/16/13 23:48	1

Client Sample ID: OC-ISCO2

Lab Sample ID: 480-38209-2

Date Collected: 05/13/13 08:45

Matrix: Surface Water

Date Received: 05/14/13 01:00

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	64		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 21:23	1
Aluminum	380		200	60	ug/L		05/14/13 08:30	05/14/13 21:23	1
Sodium	120000		1000	320	ug/L		05/14/13 08:30	05/14/13 21:23	1

Method: 6010 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	24		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 20:44	1
Aluminum	130	J	200	60	ug/L		05/14/13 08:30	05/14/13 20:44	1
Sodium	110000	B	1000	320	ug/L		05/14/13 08:30	05/14/13 20:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		2.5	1.4	mg/L			05/15/13 20:34	5
Sulfate	290		10	1.7	mg/L			05/15/13 20:34	5
Ammonia	37		1.0	0.45	mg/L			05/14/13 17:34	50
Nitrate as N	0.71		0.050	0.020	mg/L			05/14/13 22:25	1
Nitrite as N	0.023	J	0.050	0.020	mg/L			05/14/13 22:25	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1200		1.0	1.0	umhos/cm			05/16/13 23:51	1

TestAmerica Buffalo

Client Sample Results

Client: Olin Corporation
Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Client Sample ID: OC-ISCO3

Lab Sample ID: 480-38209-3

Date Collected: 05/13/13 08:30

Matrix: Surface Water

Date Received: 05/14/13 01:00

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 21:25	1
Aluminum	93	J	200	60	ug/L		05/14/13 08:30	05/14/13 21:25	1
Sodium	90000		1000	320	ug/L		05/14/13 08:30	05/14/13 21:25	1

Method: 6010 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 20:47	1
Aluminum	ND		200	60	ug/L		05/14/13 08:30	05/14/13 20:47	1
Sodium	88000	B	1000	320	ug/L		05/14/13 08:30	05/14/13 20:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180		2.5	1.4	mg/L			05/15/13 20:44	5
Sulfate	29		2.0	0.35	mg/L			05/15/13 06:18	1
Ammonia	1.4		0.020	0.0090	mg/L			05/14/13 15:38	1
Nitrate as N	0.85		0.050	0.020	mg/L			05/14/13 22:26	1
Nitrite as N	ND		0.050	0.020	mg/L			05/14/13 22:26	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	750		1.0	1.0	umhos/cm			05/16/13 23:52	1

Client Sample ID: OC-PZ-16RRSW

Lab Sample ID: 480-38209-4

Date Collected: 05/13/13 09:05

Matrix: Surface Water

Date Received: 05/14/13 01:00

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	340		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 21:27	1
Aluminum	1600		200	60	ug/L		05/14/13 08:30	05/14/13 21:27	1
Sodium	130000		1000	320	ug/L		05/14/13 08:30	05/14/13 21:27	1

Method: 6010 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	130		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 20:49	1
Aluminum	300		200	60	ug/L		05/14/13 08:30	05/14/13 20:49	1
Sodium	130000	B	1000	320	ug/L		05/14/13 08:30	05/14/13 20:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	160		2.5	1.4	mg/L			05/15/13 20:54	5
Sulfate	310		10	1.7	mg/L			05/15/13 20:54	5
Ammonia	40		1.0	0.45	mg/L			05/14/13 17:35	50
Nitrate as N	0.56		0.050	0.020	mg/L			05/14/13 22:27	1
Nitrite as N	0.023	J	0.050	0.020	mg/L			05/14/13 22:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1200		1.0	1.0	umhos/cm			05/16/13 23:54	1

TestAmerica Buffalo

Client Sample Results

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Client Sample ID: OC-PZ-17RRSW

Lab Sample ID: 480-38209-5

Date Collected: 05/13/13 09:15

Matrix: Surface Water

Date Received: 05/14/13 01:00

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	520		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 21:30	1
Aluminum	2200		200	60	ug/L		05/14/13 08:30	05/14/13 21:30	1
Sodium	140000		1000	320	ug/L		05/14/13 08:30	05/14/13 21:30	1

Method: 6010 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	290		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 20:51	1
Aluminum	740		200	60	ug/L		05/14/13 08:30	05/14/13 20:51	1
Sodium	140000	B	1000	320	ug/L		05/14/13 08:30	05/14/13 20:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	170		2.5	1.4	mg/L			05/15/13 21:04	5
Sulfate	310		10	1.7	mg/L			05/15/13 21:04	5
Ammonia	41		1.0	0.45	mg/L			05/14/13 17:36	50
Nitrate as N	0.33		0.050	0.020	mg/L			05/14/13 22:30	1
Nitrite as N	0.020	J	0.050	0.020	mg/L			05/14/13 22:30	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1300		1.0	1.0	umhos/cm			05/16/13 23:55	1

Client Sample ID: OC-PZ-18RSW

Lab Sample ID: 480-38209-6

Date Collected: 05/13/13 09:40

Matrix: Surface Water

Date Received: 05/14/13 01:00

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	12		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 21:32	1
Aluminum	160	J	200	60	ug/L		05/14/13 08:30	05/14/13 21:32	1
Sodium	99000		1000	320	ug/L		05/14/13 08:30	05/14/13 21:32	1

Method: 6010 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	7.1		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 20:54	1
Aluminum	78	J	200	60	ug/L		05/14/13 08:30	05/14/13 20:54	1
Sodium	100000	B	1000	320	ug/L		05/14/13 08:30	05/14/13 20:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	160		2.5	1.4	mg/L			05/15/13 21:15	5
Sulfate	110		10	1.7	mg/L			05/15/13 21:15	5
Ammonia	28		0.40	0.18	mg/L			05/14/13 16:25	20
Nitrate as N	0.22		0.050	0.020	mg/L			05/14/13 22:31	1
Nitrite as N	0.020	J	0.050	0.020	mg/L			05/14/13 22:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	810		1.0	1.0	umhos/cm			05/16/13 23:57	1

TestAmerica Buffalo

Client Sample Results

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Client Sample ID: OC-SD-17

Lab Sample ID: 480-38209-7

Date Collected: 05/13/13 09:25

Matrix: Surface Water

Date Received: 05/14/13 01:00

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	500		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 21:48	1
Aluminum	2100		200	60	ug/L		05/14/13 08:30	05/14/13 21:48	1
Sodium	140000		1000	320	ug/L		05/14/13 08:30	05/14/13 21:48	1

Method: 6010 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	280		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 21:05	1
Aluminum	700		200	60	ug/L		05/14/13 08:30	05/14/13 21:05	1
Sodium	140000	B	1000	320	ug/L		05/14/13 08:30	05/14/13 21:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180		2.5	1.4	mg/L			05/15/13 21:45	5
Sulfate	310		10	1.7	mg/L			05/15/13 21:45	5
Ammonia	47		1.0	0.45	mg/L			05/15/13 12:58	50
Nitrate as N	0.44		0.050	0.020	mg/L			05/14/13 22:35	1
Nitrite as N	ND		0.050	0.020	mg/L			05/14/13 22:35	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1300		1.0	1.0	umhos/cm			05/16/13 23:58	1

Client Sample ID: OC-DUP SW

Lab Sample ID: 480-38209-8

Date Collected: 05/13/13 00:00

Matrix: Surface Water

Date Received: 05/14/13 01:00

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	12		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 21:51	1
Aluminum	180	J	200	60	ug/L		05/14/13 08:30	05/14/13 21:51	1
Sodium	98000		1000	320	ug/L		05/14/13 08:30	05/14/13 21:51	1

Method: 6010 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	6.9		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 21:12	1
Aluminum	99	J	200	60	ug/L		05/14/13 08:30	05/14/13 21:12	1
Sodium	100000	B	1000	320	ug/L		05/14/13 08:30	05/14/13 21:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	160		2.5	1.4	mg/L			05/15/13 21:55	5
Sulfate	110		10	1.7	mg/L			05/15/13 21:55	5
Ammonia	27		0.40	0.18	mg/L			05/14/13 16:29	20
Nitrate as N	0.22		0.050	0.020	mg/L			05/14/13 22:36	1
Nitrite as N	0.021	J	0.050	0.020	mg/L			05/14/13 22:36	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	820		1.0	1.0	umhos/cm			05/17/13 00:00	1

TestAmerica Buffalo

QC Sample Results

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Method: 6010 - Metals (ICP)

Lab Sample ID: MB 480-118406/1-A

Matrix: Water

Analysis Batch: 118698

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 118406

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 21:14	1
Aluminum	ND		200	60	ug/L		05/14/13 08:30	05/14/13 21:14	1
Sodium	ND		1000	320	ug/L		05/14/13 08:30	05/14/13 21:14	1

Lab Sample ID: LCS 480-118406/2-A

Matrix: Water

Analysis Batch: 118698

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 118406

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	200	197		ug/L		99	80 - 120
Aluminum	10000	10400		ug/L		103	80 - 120
Sodium	10000	10100		ug/L		101	80 - 120

Lab Sample ID: LCSD 480-118406/3-A

Matrix: Water

Analysis Batch: 118698

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 118406

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chromium	200	198		ug/L		99	80 - 120	1	20
Aluminum	10000	10600		ug/L		105	80 - 120	2	20
Sodium	10000	10400		ug/L		103	80 - 120	2	20

Lab Sample ID: 480-38209-6 MS

Matrix: Surface Water

Analysis Batch: 118698

Client Sample ID: OC-PZ-18RSW

Prep Type: Total/NA

Prep Batch: 118406

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	12		200	209		ug/L		99	75 - 125
Aluminum	160	J	10000	10600		ug/L		104	75 - 125
Sodium	99000		10000	109000	4	ug/L		99	75 - 125

Lab Sample ID: 480-38209-6 MSD

Matrix: Surface Water

Analysis Batch: 118698

Client Sample ID: OC-PZ-18RSW

Prep Type: Total/NA

Prep Batch: 118406

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chromium	12		200	213		ug/L		101	75 - 125	2	20
Aluminum	160	J	10000	10900		ug/L		107	75 - 125	3	20
Sodium	99000		10000	112000	4	ug/L		137	75 - 125	3	20

Lab Sample ID: MB 480-118397/27-B

Matrix: Water

Analysis Batch: 118696

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 118407

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		5.0	1.0	ug/L		05/14/13 08:30	05/14/13 20:31	1
Aluminum	ND		200	60	ug/L		05/14/13 08:30	05/14/13 20:31	1
Sodium	901	J	1000	320	ug/L		05/14/13 08:30	05/14/13 20:31	1

TestAmerica Buffalo

QC Sample Results

Client: Olin Corporation
Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Method: 6010 - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-118397/28-B

Matrix: Water

Analysis Batch: 118696

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Prep Batch: 118407

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
Chromium	200	196		ug/L		98	80 - 120	
Aluminum	10000	10300		ug/L		103	80 - 120	
Sodium	10000	10200		ug/L		102	80 - 120	

Lab Sample ID: LCSD 480-118397/22-B

Matrix: Water

Analysis Batch: 118696

Client Sample ID: Lab Control Sample Dup

Prep Type: Dissolved

Prep Batch: 118407

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	
							Limits		RPD	Limit
Chromium	200	198		ug/L		99	80 - 120	3	20	
Aluminum	10000	10500		ug/L		105	80 - 120	5	20	
Sodium	10000	10400		ug/L		104	80 - 120	2	20	

Lab Sample ID: 480-38209-6 MS

Matrix: Surface Water

Analysis Batch: 118696

Client Sample ID: OC-PZ-18RSW

Prep Type: Dissolved

Prep Batch: 118407

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.	
									Limits	
Chromium	7.1		200	201		ug/L		97	75 - 125	
Aluminum	78	J	10000	10500		ug/L		104	75 - 125	
Sodium	100000	B	10000	110000	4	ug/L		93	75 - 125	

Lab Sample ID: 480-38209-6 MSD

Matrix: Surface Water

Analysis Batch: 118696

Client Sample ID: OC-PZ-18RSW

Prep Type: Dissolved

Prep Batch: 118407

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.		RPD	
									Limits		RPD	Limit
Chromium	7.1		200	202		ug/L		98	75 - 125	1	20	
Aluminum	78	J	10000	10700		ug/L		106	75 - 125	1	20	
Sodium	100000	B	10000	111000	4	ug/L		104	75 - 125	1	20	

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-118519/52

Matrix: Water

Analysis Batch: 118519

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	ND		0.50	0.28	mg/L			05/15/13 03:53	1
Sulfate	ND		2.0	0.35	mg/L			05/15/13 03:53	1

Lab Sample ID: LCS 480-118519/51

Matrix: Water

Analysis Batch: 118519

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
Chloride	20.0	20.2		mg/L		101	90 - 110	
Sulfate	20.0	18.9		mg/L		94	90 - 110	

TestAmerica Buffalo

QC Sample Results

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 480-118752/28

Matrix: Water

Analysis Batch: 118752

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			05/15/13 18:32	1
Sulfate	ND		2.0	0.35	mg/L			05/15/13 18:32	1

Lab Sample ID: LCS 480-118752/27

Matrix: Water

Analysis Batch: 118752

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.4		mg/L		102	90 - 110
Sulfate	20.0	21.3		mg/L		106	90 - 110

Lab Sample ID: 480-38209-6 MS

Matrix: Surface Water

Analysis Batch: 118752

Client Sample ID: OC-PZ-18RSW

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	160		125	282		mg/L		101	90 - 110
Sulfate	110		125	237		mg/L		103	90 - 110

Lab Sample ID: 480-38209-6 MSD

Matrix: Surface Water

Analysis Batch: 118752

Client Sample ID: OC-PZ-18RSW

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	160		125	283		mg/L		102	90 - 110	0	20
Sulfate	110		125	237		mg/L		103	90 - 110	0	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-118582/131

Matrix: Water

Analysis Batch: 118582

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	^	0.020	0.0090	mg/L			05/14/13 17:29	1

Lab Sample ID: MB 480-118582/51

Matrix: Water

Analysis Batch: 118582

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/14/13 15:34	1

Lab Sample ID: MB 480-118582/75

Matrix: Water

Analysis Batch: 118582

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/14/13 15:57	1

TestAmerica Buffalo

QC Sample Results

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 480-118582/132

Matrix: Water

Analysis Batch: 118582

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.02	^	mg/L		102	90 - 110

Lab Sample ID: LCS 480-118582/52

Matrix: Water

Analysis Batch: 118582

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.01		mg/L		101	90 - 110

Lab Sample ID: LCS 480-118582/76

Matrix: Water

Analysis Batch: 118582

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.03		mg/L		103	90 - 110

Lab Sample ID: 480-38209-5 MS

Matrix: Surface Water

Analysis Batch: 118582

Client Sample ID: OC-PZ-17RRSW

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	41		10.0	46.4	4	mg/L		50	54 - 150

Lab Sample ID: 480-38209-6 MS

Matrix: Surface Water

Analysis Batch: 118582

Client Sample ID: OC-PZ-18RSW

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	28		4.00	32.0	4	mg/L		90	54 - 150

Lab Sample ID: 480-38209-6 MSD

Matrix: Surface Water

Analysis Batch: 118582

Client Sample ID: OC-PZ-18RSW

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	28		4.00	29.4	4	mg/L		24	54 - 150	9	20

Lab Sample ID: 480-38209-5 DU

Matrix: Surface Water

Analysis Batch: 118582

Client Sample ID: OC-PZ-17RRSW

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	41			43.6		mg/L				5	20

Lab Sample ID: MB 480-118820/3

Matrix: Water

Analysis Batch: 118820

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			05/15/13 12:54	1

TestAmerica Buffalo

QC Sample Results

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Lab Sample ID: LCS 480-118820/4
Matrix: Water
Analysis Batch: 118820

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.03		mg/L		103	90 - 110

Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 480-118615/27
Matrix: Water
Analysis Batch: 118615

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			05/14/13 22:44	1

Lab Sample ID: MB 480-118615/3
Matrix: Water
Analysis Batch: 118615

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			05/14/13 22:17	1

Lab Sample ID: LCS 480-118615/28
Matrix: Water
Analysis Batch: 118615

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	1.50	1.51		mg/L		101	90 - 110

Lab Sample ID: LCS 480-118615/4
Matrix: Water
Analysis Batch: 118615

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	1.50	1.53		mg/L		102	90 - 110

Lab Sample ID: 480-38209-6 MS
Matrix: Surface Water
Analysis Batch: 118615

Client Sample ID: OC-PZ-18RSW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	0.020	J	1.00	1.11	F	mg/L		111	90 - 110

Lab Sample ID: 480-38209-6 MSD
Matrix: Surface Water
Analysis Batch: 118615

Client Sample ID: OC-PZ-18RSW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	0.020	J	1.00	1.15	F	mg/L		115	90 - 110	4	20

TestAmerica Buffalo

QC Sample Results

Client: Olin Corporation
Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: 480-38209-1 DU
Matrix: Surface Water
Analysis Batch: 119145

Client Sample ID: OC-ISCO1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	820		812		umhos/cm		1	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Association Summary

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Metals

Prep Batch: 118406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38209-1	OC-ISCO1	Total/NA	Surface Water	3005A	
480-38209-2	OC-ISCO2	Total/NA	Surface Water	3005A	
480-38209-3	OC-ISCO3	Total/NA	Surface Water	3005A	
480-38209-4	OC-PZ-16RRSW	Total/NA	Surface Water	3005A	
480-38209-5	OC-PZ-17RRSW	Total/NA	Surface Water	3005A	
480-38209-6	OC-PZ-18RSW	Total/NA	Surface Water	3005A	
480-38209-6 MS	OC-PZ-18RSW	Total/NA	Surface Water	3005A	
480-38209-6 MSD	OC-PZ-18RSW	Total/NA	Surface Water	3005A	
480-38209-7	OC-SD-17	Total/NA	Surface Water	3005A	
480-38209-8	OC-DUP SW	Total/NA	Surface Water	3005A	
LCS 480-118406/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCS 480-118406/3-A	Lab Control Sample Dup	Total/NA	Water	3005A	
MB 480-118406/1-A	Method Blank	Total/NA	Water	3005A	

Prep Batch: 118407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38209-1	OC-ISCO1	Dissolved	Surface Water	3005A	
480-38209-2	OC-ISCO2	Dissolved	Surface Water	3005A	
480-38209-3	OC-ISCO3	Dissolved	Surface Water	3005A	
480-38209-4	OC-PZ-16RRSW	Dissolved	Surface Water	3005A	
480-38209-5	OC-PZ-17RRSW	Dissolved	Surface Water	3005A	
480-38209-6	OC-PZ-18RSW	Dissolved	Surface Water	3005A	
480-38209-6 MS	OC-PZ-18RSW	Dissolved	Surface Water	3005A	
480-38209-6 MSD	OC-PZ-18RSW	Dissolved	Surface Water	3005A	
480-38209-7	OC-SD-17	Dissolved	Surface Water	3005A	
480-38209-8	OC-DUP SW	Dissolved	Surface Water	3005A	
LCS 480-118397/28-B	Lab Control Sample	Dissolved	Water	3005A	
LCS 480-118397/22-B	Lab Control Sample Dup	Dissolved	Water	3005A	
MB 480-118397/27-B	Method Blank	Dissolved	Water	3005A	

Analysis Batch: 118696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38209-1	OC-ISCO1	Dissolved	Surface Water	6010	118407
480-38209-2	OC-ISCO2	Dissolved	Surface Water	6010	118407
480-38209-3	OC-ISCO3	Dissolved	Surface Water	6010	118407
480-38209-4	OC-PZ-16RRSW	Dissolved	Surface Water	6010	118407
480-38209-5	OC-PZ-17RRSW	Dissolved	Surface Water	6010	118407
480-38209-6	OC-PZ-18RSW	Dissolved	Surface Water	6010	118407
480-38209-6 MS	OC-PZ-18RSW	Dissolved	Surface Water	6010	118407
480-38209-6 MSD	OC-PZ-18RSW	Dissolved	Surface Water	6010	118407
480-38209-7	OC-SD-17	Dissolved	Surface Water	6010	118407
480-38209-8	OC-DUP SW	Dissolved	Surface Water	6010	118407
LCS 480-118397/28-B	Lab Control Sample	Dissolved	Water	6010	118407
LCS 480-118397/22-B	Lab Control Sample Dup	Dissolved	Water	6010	118407
MB 480-118397/27-B	Method Blank	Dissolved	Water	6010	118407

Analysis Batch: 118698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38209-1	OC-ISCO1	Total/NA	Surface Water	6010	118406
480-38209-2	OC-ISCO2	Total/NA	Surface Water	6010	118406
480-38209-3	OC-ISCO3	Total/NA	Surface Water	6010	118406

TestAmerica Buffalo

QC Association Summary

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Metals (Continued)

Analysis Batch: 118698 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38209-4	OC-PZ-16RRSW	Total/NA	Surface Water	6010	118406
480-38209-5	OC-PZ-17RRSW	Total/NA	Surface Water	6010	118406
480-38209-6	OC-PZ-18RSW	Total/NA	Surface Water	6010	118406
480-38209-6 MS	OC-PZ-18RSW	Total/NA	Surface Water	6010	118406
480-38209-6 MSD	OC-PZ-18RSW	Total/NA	Surface Water	6010	118406
480-38209-7	OC-SD-17	Total/NA	Surface Water	6010	118406
480-38209-8	OC-DUP SW	Total/NA	Surface Water	6010	118406
LCS 480-118406/2-A	Lab Control Sample	Total/NA	Water	6010	118406
LCS 480-118406/3-A	Lab Control Sample Dup	Total/NA	Water	6010	118406
MB 480-118406/1-A	Method Blank	Total/NA	Water	6010	118406

General Chemistry

Analysis Batch: 118519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38209-3	OC-ISCO3	Total/NA	Surface Water	300.0	
LCS 480-118519/51	Lab Control Sample	Total/NA	Water	300.0	
MB 480-118519/52	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 118582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38209-1	OC-ISCO1	Total/NA	Surface Water	350.1	
480-38209-2	OC-ISCO2	Total/NA	Surface Water	350.1	
480-38209-3	OC-ISCO3	Total/NA	Surface Water	350.1	
480-38209-4	OC-PZ-16RRSW	Total/NA	Surface Water	350.1	
480-38209-5	OC-PZ-17RRSW	Total/NA	Surface Water	350.1	
480-38209-5 DU	OC-PZ-17RRSW	Total/NA	Surface Water	350.1	
480-38209-5 MS	OC-PZ-17RRSW	Total/NA	Surface Water	350.1	
480-38209-6	OC-PZ-18RSW	Total/NA	Surface Water	350.1	
480-38209-6 MS	OC-PZ-18RSW	Total/NA	Surface Water	350.1	
480-38209-6 MSD	OC-PZ-18RSW	Total/NA	Surface Water	350.1	
480-38209-8	OC-DUP SW	Total/NA	Surface Water	350.1	
LCS 480-118582/132	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-118582/52	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-118582/76	Lab Control Sample	Total/NA	Water	350.1	
MB 480-118582/131	Method Blank	Total/NA	Water	350.1	
MB 480-118582/51	Method Blank	Total/NA	Water	350.1	
MB 480-118582/75	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 118615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38209-1	OC-ISCO1	Total/NA	Surface Water	353.2	
480-38209-2	OC-ISCO2	Total/NA	Surface Water	353.2	
480-38209-3	OC-ISCO3	Total/NA	Surface Water	353.2	
480-38209-4	OC-PZ-16RRSW	Total/NA	Surface Water	353.2	
480-38209-5	OC-PZ-17RRSW	Total/NA	Surface Water	353.2	
480-38209-6	OC-PZ-18RSW	Total/NA	Surface Water	353.2	
480-38209-6 MS	OC-PZ-18RSW	Total/NA	Surface Water	353.2	
480-38209-6 MSD	OC-PZ-18RSW	Total/NA	Surface Water	353.2	
480-38209-7	OC-SD-17	Total/NA	Surface Water	353.2	

TestAmerica Buffalo

QC Association Summary

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

General Chemistry (Continued)

Analysis Batch: 118615 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38209-8	OC-DUP SW	Total/NA	Surface Water	353.2	
LCS 480-118615/28	Lab Control Sample	Total/NA	Water	353.2	
LCS 480-118615/4	Lab Control Sample	Total/NA	Water	353.2	
MB 480-118615/27	Method Blank	Total/NA	Water	353.2	
MB 480-118615/3	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 118621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38209-1	OC-ISCO1	Total/NA	Surface Water	353.2	
480-38209-2	OC-ISCO2	Total/NA	Surface Water	353.2	
480-38209-3	OC-ISCO3	Total/NA	Surface Water	353.2	
480-38209-4	OC-PZ-16RRSW	Total/NA	Surface Water	353.2	
480-38209-5	OC-PZ-17RRSW	Total/NA	Surface Water	353.2	
480-38209-6	OC-PZ-18RSW	Total/NA	Surface Water	353.2	
480-38209-7	OC-SD-17	Total/NA	Surface Water	353.2	
480-38209-8	OC-DUP SW	Total/NA	Surface Water	353.2	

Analysis Batch: 118752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38209-1	OC-ISCO1	Total/NA	Surface Water	300.0	
480-38209-2	OC-ISCO2	Total/NA	Surface Water	300.0	
480-38209-3	OC-ISCO3	Total/NA	Surface Water	300.0	
480-38209-4	OC-PZ-16RRSW	Total/NA	Surface Water	300.0	
480-38209-5	OC-PZ-17RRSW	Total/NA	Surface Water	300.0	
480-38209-6	OC-PZ-18RSW	Total/NA	Surface Water	300.0	
480-38209-6 MS	OC-PZ-18RSW	Total/NA	Surface Water	300.0	
480-38209-6 MSD	OC-PZ-18RSW	Total/NA	Surface Water	300.0	
480-38209-7	OC-SD-17	Total/NA	Surface Water	300.0	
480-38209-8	OC-DUP SW	Total/NA	Surface Water	300.0	
LCS 480-118752/27	Lab Control Sample	Total/NA	Water	300.0	
MB 480-118752/28	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 118820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38209-7	OC-SD-17	Total/NA	Surface Water	350.1	
LCS 480-118820/4	Lab Control Sample	Total/NA	Water	350.1	
MB 480-118820/3	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 119145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-38209-1	OC-ISCO1	Total/NA	Surface Water	SM 2510B	
480-38209-1 DU	OC-ISCO1	Total/NA	Surface Water	SM 2510B	
480-38209-2	OC-ISCO2	Total/NA	Surface Water	SM 2510B	
480-38209-3	OC-ISCO3	Total/NA	Surface Water	SM 2510B	
480-38209-4	OC-PZ-16RRSW	Total/NA	Surface Water	SM 2510B	
480-38209-5	OC-PZ-17RRSW	Total/NA	Surface Water	SM 2510B	
480-38209-6	OC-PZ-18RSW	Total/NA	Surface Water	SM 2510B	
480-38209-7	OC-SD-17	Total/NA	Surface Water	SM 2510B	
480-38209-8	OC-DUP SW	Total/NA	Surface Water	SM 2510B	
LCS 480-119145/1	Lab Control Sample	Total/NA	Water	SM 2510B	

TestAmerica Buffalo

Lab Chronicle

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Client Sample ID: OC-ISCO1

Date Collected: 05/13/13 10:15

Date Received: 05/14/13 01:00

Lab Sample ID: 480-38209-1

Matrix: Surface Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			118407	05/14/13 08:30	SS	TAL BUF
Dissolved	Analysis	6010		1	118696	05/14/13 20:38	LH	TAL BUF
Total/NA	Prep	3005A			118406	05/14/13 08:30	SS	TAL BUF
Total/NA	Analysis	6010		1	118698	05/14/13 21:21	AH	TAL BUF
Total/NA	Analysis	350.1		20	118582	05/14/13 16:19	SB	TAL BUF
Total/NA	Analysis	353.2		1	118615	05/14/13 22:24	NH	TAL BUF
Total/NA	Analysis	353.2		1	118621	05/14/13 19:51	NH	TAL BUF
Total/NA	Analysis	300.0		5	118752	05/15/13 20:24	KAC	TAL BUF
Total/NA	Analysis	SM 2510B		1	119145	05/16/13 23:48	LK	TAL BUF

Client Sample ID: OC-ISCO2

Date Collected: 05/13/13 08:45

Date Received: 05/14/13 01:00

Lab Sample ID: 480-38209-2

Matrix: Surface Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			118407	05/14/13 08:30	SS	TAL BUF
Dissolved	Analysis	6010		1	118696	05/14/13 20:44	LH	TAL BUF
Total/NA	Prep	3005A			118406	05/14/13 08:30	SS	TAL BUF
Total/NA	Analysis	6010		1	118698	05/14/13 21:23	AH	TAL BUF
Total/NA	Analysis	350.1		50	118582	05/14/13 17:34	SB	TAL BUF
Total/NA	Analysis	353.2		1	118615	05/14/13 22:25	NH	TAL BUF
Total/NA	Analysis	353.2		1	118621	05/14/13 22:25	NH	TAL BUF
Total/NA	Analysis	300.0		5	118752	05/15/13 20:34	KAC	TAL BUF
Total/NA	Analysis	SM 2510B		1	119145	05/16/13 23:51	LK	TAL BUF

Client Sample ID: OC-ISCO3

Date Collected: 05/13/13 08:30

Date Received: 05/14/13 01:00

Lab Sample ID: 480-38209-3

Matrix: Surface Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			118407	05/14/13 08:30	SS	TAL BUF
Dissolved	Analysis	6010		1	118696	05/14/13 20:47	LH	TAL BUF
Total/NA	Prep	3005A			118406	05/14/13 08:30	SS	TAL BUF
Total/NA	Analysis	6010		1	118698	05/14/13 21:25	AH	TAL BUF
Total/NA	Analysis	300.0		1	118519	05/15/13 06:18	KC	TAL BUF
Total/NA	Analysis	350.1		1	118582	05/14/13 15:38	SB	TAL BUF
Total/NA	Analysis	353.2		1	118615	05/14/13 22:26	NH	TAL BUF
Total/NA	Analysis	353.2		1	118621	05/14/13 22:26	NH	TAL BUF
Total/NA	Analysis	300.0		5	118752	05/15/13 20:44	KAC	TAL BUF
Total/NA	Analysis	SM 2510B		1	119145	05/16/13 23:52	LK	TAL BUF

Lab Chronicle

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Client Sample ID: OC-PZ-16RRSW

Lab Sample ID: 480-38209-4

Date Collected: 05/13/13 09:05

Matrix: Surface Water

Date Received: 05/14/13 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			118407	05/14/13 08:30	SS	TAL BUF
Dissolved	Analysis	6010		1	118696	05/14/13 20:49	LH	TAL BUF
Total/NA	Prep	3005A			118406	05/14/13 08:30	SS	TAL BUF
Total/NA	Analysis	6010		1	118698	05/14/13 21:27	AH	TAL BUF
Total/NA	Analysis	350.1		50	118582	05/14/13 17:35	SB	TAL BUF
Total/NA	Analysis	353.2		1	118615	05/14/13 22:27	NH	TAL BUF
Total/NA	Analysis	353.2		1	118621	05/14/13 22:27	NH	TAL BUF
Total/NA	Analysis	300.0		5	118752	05/15/13 20:54	KAC	TAL BUF
Total/NA	Analysis	SM 2510B		1	119145	05/16/13 23:54	LK	TAL BUF

Client Sample ID: OC-PZ-17RRSW

Lab Sample ID: 480-38209-5

Date Collected: 05/13/13 09:15

Matrix: Surface Water

Date Received: 05/14/13 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			118407	05/14/13 08:30	SS	TAL BUF
Dissolved	Analysis	6010		1	118696	05/14/13 20:51	LH	TAL BUF
Total/NA	Prep	3005A			118406	05/14/13 08:30	SS	TAL BUF
Total/NA	Analysis	6010		1	118698	05/14/13 21:30	AH	TAL BUF
Total/NA	Analysis	350.1		50	118582	05/14/13 17:36	SB	TAL BUF
Total/NA	Analysis	353.2		1	118615	05/14/13 22:30	NH	TAL BUF
Total/NA	Analysis	353.2		1	118621	05/14/13 22:30	NH	TAL BUF
Total/NA	Analysis	300.0		5	118752	05/15/13 21:04	KAC	TAL BUF
Total/NA	Analysis	SM 2510B		1	119145	05/16/13 23:55	LK	TAL BUF

Client Sample ID: OC-PZ-18RSW

Lab Sample ID: 480-38209-6

Date Collected: 05/13/13 09:40

Matrix: Surface Water

Date Received: 05/14/13 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			118407	05/14/13 08:30	SS	TAL BUF
Dissolved	Analysis	6010		1	118696	05/14/13 20:54	LH	TAL BUF
Total/NA	Prep	3005A			118406	05/14/13 08:30	SS	TAL BUF
Total/NA	Analysis	6010		1	118698	05/14/13 21:32	AH	TAL BUF
Total/NA	Analysis	350.1		20	118582	05/14/13 16:25	SB	TAL BUF
Total/NA	Analysis	353.2		1	118615	05/14/13 22:31	NH	TAL BUF
Total/NA	Analysis	353.2		1	118621	05/14/13 22:31	NH	TAL BUF
Total/NA	Analysis	300.0		5	118752	05/15/13 21:15	KAC	TAL BUF
Total/NA	Analysis	SM 2510B		1	119145	05/16/13 23:57	LK	TAL BUF

Lab Chronicle

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Client Sample ID: OC-SD-17

Lab Sample ID: 480-38209-7

Date Collected: 05/13/13 09:25

Matrix: Surface Water

Date Received: 05/14/13 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			118407	05/14/13 08:30	SS	TAL BUF
Dissolved	Analysis	6010		1	118696	05/14/13 21:05	LH	TAL BUF
Total/NA	Prep	3005A			118406	05/14/13 08:30	SS	TAL BUF
Total/NA	Analysis	6010		1	118698	05/14/13 21:48	AH	TAL BUF
Total/NA	Analysis	353.2		1	118615	05/14/13 22:35	NH	TAL BUF
Total/NA	Analysis	353.2		1	118621	05/14/13 22:35	NH	TAL BUF
Total/NA	Analysis	300.0		5	118752	05/15/13 21:45	KAC	TAL BUF
Total/NA	Analysis	350.1		50	118820	05/15/13 12:58	SB	TAL BUF
Total/NA	Analysis	SM 2510B		1	119145	05/16/13 23:58	LK	TAL BUF

Client Sample ID: OC-DUP SW

Lab Sample ID: 480-38209-8

Date Collected: 05/13/13 00:00

Matrix: Surface Water

Date Received: 05/14/13 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			118407	05/14/13 08:30	SS	TAL BUF
Dissolved	Analysis	6010		1	118696	05/14/13 21:12	LH	TAL BUF
Total/NA	Prep	3005A			118406	05/14/13 08:30	SS	TAL BUF
Total/NA	Analysis	6010		1	118698	05/14/13 21:51	AH	TAL BUF
Total/NA	Analysis	350.1		20	118582	05/14/13 16:29	SB	TAL BUF
Total/NA	Analysis	353.2		1	118615	05/14/13 22:36	NH	TAL BUF
Total/NA	Analysis	353.2		1	118621	05/14/13 22:36	NH	TAL BUF
Total/NA	Analysis	300.0		5	118752	05/15/13 21:55	KAC	TAL BUF
Total/NA	Analysis	SM 2510B		1	119145	05/17/13 00:00	LK	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: Olin Corporation
 Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-13
California	NELAP	9	1169CA	09-30-13
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-13
Georgia	State Program	4	N/A	03-31-14
Georgia	State Program	4	956	06-30-13
Georgia	State Program	4	956	03-31-14
Illinois	NELAP	5	200003	09-30-13
Iowa	State Program	7	374	03-15-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-13
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-13
Maine	State Program	1	NY00044	12-04-13
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-13
Michigan	State Program	5	9937	04-01-13 *
Minnesota	NELAP	5	036-999-337	12-31-13
New Hampshire	NELAP	1	2973	09-11-13
New Hampshire	NELAP	1	2337	11-17-13
New Jersey	NELAP	2	NY455	06-30-13
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-13
Oregon	NELAP	10	NY200003	06-09-13
Pennsylvania	NELAP	3	68-00281	07-31-13
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-13
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-13
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	09-30-13
Wisconsin	State Program	5	998310390	08-31-13

* Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: Olin Corporation
Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Method	Method Description	Protocol	Laboratory
6010	Metals (ICP)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
353.2	Nitrogen, Nitrite	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
SM 2510B	Conductivity, Specific Conductance	SM	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

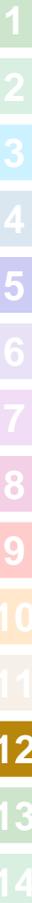
TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Olin Corporation
Project/Site: Olin Chemical Surface water quarterly

TestAmerica Job ID: 480-38209-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-38209-1	OC-ISCO1	Surface Water	05/13/13 10:15	05/14/13 01:00
480-38209-2	OC-ISCO2	Surface Water	05/13/13 08:45	05/14/13 01:00
480-38209-3	OC-ISCO3	Surface Water	05/13/13 08:30	05/14/13 01:00
480-38209-4	OC-PZ-16RRSW	Surface Water	05/13/13 09:05	05/14/13 01:00
480-38209-5	OC-PZ-17RRSW	Surface Water	05/13/13 09:15	05/14/13 01:00
480-38209-6	OC-PZ-18RSW	Surface Water	05/13/13 09:40	05/14/13 01:00
480-38209-7	OC-SD-17	Surface Water	05/13/13 09:25	05/14/13 01:00
480-38209-8	OC-DUP SW	Surface Water	05/13/13 00:00	05/14/13 01:00



Login Sample Receipt Checklist

Client: Olin Corporation

Job Number: 480-38209-1

Login Number: 38209

List Source: TestAmerica Buffalo

List Number: 1

Creator: Wienke, Robert

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	AMEC
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

